

REMARKS

The amendments above and the remarks below are in response to an Office Action mailed on August 24, 2007 in the above-listed patent application. In the Office Action, Claims 1-17 were rejected under 35 U.S.C. 103(a) over U.S. Pat. No. 5,910,129 to Koblish et al. ("Koblish"). Also, Claims 1-17 were rejected under obviousness-type double patenting over co-pending U.S. Pat. Apps. Nos. 10/755,660; 10/756,014; and 10/756,645.

With respect to the obviousness-type double patenting, Applicant has filed terminal disclaimers disclaiming the present application with respect to each of the '660, '014, '645 applications. The obviousness-type double patenting rejection has therefore been overcome.

Koblish discloses, e.g., in Figures 36 and 37 an electrode structure 360 positioned in a catheter sheath 36. The electrode structure includes an electrode body 362 with a surrounding porous material 364 to transfer ablation energy by ionic transport. Col. 21; ll. 43-46 of Koblish. In the cross-section of Figures 37 and 38, a center support lumen 370 of the electrode structure 360 is shown surrounded by the porous material. On the outside of the center support 370 are supported electrodes 372 and between the electrodes are apertures 374 to allow passage of ionic fluid therethrough.

Koblish describes the ionic fluid as being necessary to accomplishing ablation of the target tissue.

The porous material 364 has pores capable of allowing transport of ions contained in the fluid through the material 364 and into contact with tissue. As FIG. 37 also shows, the electrodes 372 are coupled to a source 380 of radio frequency energy. The electrodes 372 transmit the radio frequency energy into the ionic fluid. The ionic fluid establishes an electrically conductive path. The pores of the porous material 364 establish ionic transport of ablation energy from the electrodes 372, through the fluid, to tissue outside the electrode body 362.

Col. 21; ll. 63-67 and col. 22; ll. 1-5.

In contrast, Claims 1 and 10 have been amended to recite the ablation element having a light transmission surface adjacent a portion of the housing that is impermeable to the fluid and that the light transmission surface is moveable with respect to the impermeable portion of the

housing. For example, Figure 3 of the present application illustrates one embodiment in which the fluid flow (indicated by the arrows) is between the housing 22 and a surface of a light scattering medium 40 that transmits light (i.e., it is not surrounded by a reflective mirror 42). As shown in Figure 3, the fluid does not exit the housing adjacent the transmission portion of the light scattering medium 40. Instead, the fluid flows between the light transmission portion and the housing to cool the light transmission surface and promote its sliding movement.

In Koblish, in contrast, the electrodes 372 operate by radiant energy and the adjacent porous material 364 is porous to establish ionic transport of the radio frequency energy. Even in light of Edwards alleged teaching that “interchangeability between different energy application types is seamless,” one of ordinary skill in the art would not modify the porous material 364 to be impermeable as it would inhibit or stop the ability of the electrodes 372 to ablate the tissue because there no longer would be a conductive path.

In addition, Claim 17 has been amended to recite that the ablation element is disposed within a portion of the housing that has optical properties for light transmission; the ablation element is movable with respect to the portion of the housing; and the light ablative energy is transmitted through the portion of the housing while moving the ablation element. Koblish makes no teaching or suggestion that the porous material 364 is optically transmissive, only that it is porous to establish ionic transport. Edwards discloses the use of an energy delivery device 22 that includes “an incoherent light source coupled to an optical fiber” that is movable through an introducer 21. Col. 8; ll. 38-39. However, Edwards appears to only disclose direct contact of the electrode 90 with the tissue during ablation. Therefore, the device of Edwards would not require a housing with transmissive optical properties.


None of the remaining cited references, alone or in combination, appear to teach or suggest the invention recited in Claims 1, 10 and 17. The remaining Claims 2-9 and 11-16 depend from, and further patentably distinguish, Claims 1 and 10. Therefore, the rejection under 35 U.S.C. 103(a) have been overcome and Claims 1-17 of the present application should be in a condition for allowance.

CONCLUSION

In view of the remarks and amendments presented above, it is respectfully submitted that the pending claims of the present invention are in condition for allowance. It is respectfully requested that a Notice of Allowance be issued in due course. The Examiner is requested to contact Applicants' undersigned attorney to resolve any remaining issues in order to expedite examination of the present application.

If an appropriate payment does not accompany or precede this submission, the Commissioner is hereby authorized to charge any required fees, such as under 37 C.F.R. §§1.6 or 1.17, including any petition for extension of time, or to credit any overpayment, to deposit Account No. 50-1225 (RMI-5755CON1).

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